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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/645,186	08/24/2000	Donald Fedyk	10360-062001	4310

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EXAMINER
BLOUNT, STEVEN

ART UNIT	PAPER NUMBER
2661	

DATE MAILED: 03/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)	
Office Action Summary	09/645,186	FEDYK ET AL.	
	Examiner	**Art Unit**	
	Steven Blount	2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _09 December 2004_.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1 - 59_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1 - 59_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _12/09/2004_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on

11/19/2004 has been entered.

Drawings

2.   The formal set of drawings submitted by applicant are approved, including the

requested changes made to figure 2.

3.   The following is a quotation of 35 USC 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1-2, 5, 7-10, 13, 17, 20-21, 24, 26-29, 32, 36, 39-40, 45-48, 53,

and 57 are rejected under 35 U.S.C. 103(a) as being obvious over U.S. patent

6,363,319 to Hsu in view of U.S. patent 5,940,372 to Bertin et al.

With regard to claims 1 - 2, Hsu teaches allocating "flows" by determining if there

is sufficient bandwidth (col 3 lines 5+) available, and deciding whether to allocate the

resource on the link (path) based on the amount of bandwidth on the link, and a cost;

see col 5 lines 15 – 23 and 51, and note that the cost method used includes the shortest

hop path (since it states that the cost metric becomes the hop count when the cost

equals one, which would correspond to essentially uniform traffic loading conditions

throughout the network, the shortest hop count is part of the cost). Hsu et al does not

however explicitly teach progressively using a larger number of hops in an iterative

fashion while determining the correct path. This is taught in Bertin et al. See col 12,

lines 13+: "the objective of the algorithm is to find a path joining two nodes with a

minimum load, the load being defined to reflect the congestion of the link. The algorithm

starts from the source node and first find the lightest path loads subject to the constraint

that the paths contain at most one link. Then, it find the lightest path loads with a

constraint of paths of at most two links, and so forth."

It would have been obvious to one of ordinary skill in the art at the time of the

invention to have used a larger number of hops in an iterative fashion while

determining the correct path in Hsu, in light of the teachings of Bertin et al, in order to

find the best route in an efficient manner.

With regard to the following claims (hereinafter Cl), note the following: Cl 5: ·

hops and topology database: col 5 lines 55+ and col 11, lines 53+; Cl 7: alternative

routes: col 7, lines 50+, and col 5 lines 18+; Cl 8: MPLS: see col 5 lines 5+ and the

entire patent; Cl 9: see col 3, lines 5+; Cl 10: priority: col 6 lines 17+.

Cl 13: see rejection of claim 1 above, and note MPLS is taught; Cl 17: see

rejection of claim 10; Cl 20: see the rejection of claim 1, and note the method steps are

capable of being stored on computer readable medium, and see also members 152 and

170 in figure 1D; Cl 21: see rejection of claim 2; Cl 24: see rejection of claim 5; Cl 26:

see rejection of claim 7; Cl 27: see rejection of claim 8; Cl 28: see rejection of claim 9;

Cl 29: see rejection of claim 10; Cl 32: note use of MPLS and see rejection of claim 13;

Cl 36: see rejection of claim 10; Cl 39: see rejection of claim 1, and note that the

apparatus limitations are all taught in the accompanying method limitations; Cl 40: see

rejection of claim 2; Cl 45: see rejection of claim 7; Cl 46: see rejection of claim 8; Cl 47:

see rejection of claim 9; Cl 48: see rejection of claim 10; Cl 53: see rejections above,

especially of claims 1 – 2 and also 8; Cl 57: see rejection of claim 10.

5.   Claims 3, 6, 14, 22, 25, 33, 41, 43 - 44, and 54 are rejected under 35

U.S.C. 103(a) as being obvious over U.S. patent 6,363,319 to Hsu and U.S. patent

5,940,372 to Bertin as applied above to claims 1-2, 5, 7-10, 13, 17, 20-21, 24, 26-29,

32, 36, 39-40, 45-48, 53, and 57 above, and further in view of U.S. patent 6,034,946 to

Roginsky et al.

With regard to claim 3, Hsu/Bertin teach the invention as described above, but

does not teach comparing cost to a predetermined maximum acceptable cost. Roginsky

et al teaches identifying network paths that have "performance characteristics" less than

certain threshold values, as is described in col 4, lines 60+ and the abstract (the

examiner submits that this is also well known in the art of optimization). It would have

been obvious to one of ordinary skill in the art at the time of the invention to have

allocated the bandwidth of Hsu/Bertin to a path whose associated cost value does not

exceed a predetermined maximum value, in light of the teachings of Roginsky et al, in

order to provide a further means of determining the most efficient allocation of

resources on the network. With regard to claim 6, note the discussion of sufficient

bandwidth above with regard to claims 1 – 2, and also the maximum cost discussion immediately above.

Cl 14: see rejection of claim 3; Cl 22: see rejection of claim 3; Cl 25: see rejection of claim 6; Cl 33: see rejection of claim 3; Cl 41: see rejection of claim 3; Cl 54: see rejection of claim 3.

6.   Claims 11 – 12, 18-19, 30-31, 37-38, 49, 50-52, 58 and 59 are rejected under 35 U.S.C. 103(a) as being obvious over U.S. patent 6,363,319 to Hsu and U.S. patent 5,940,372 to Bertin as applied above to claims 1-2, 5, 7-10, 13, 17, 20-21, 24, 26-29, 32, 36, 39-40, 45-48, 53, and 57, and further in view of U.S. patent 5,687,167 to Bertin et al.

With regard to claim 11, Hsu/Bertin (372) teaches the invention as described above, but does not teach taking at least a portion of the bandwidth in the network path that is being used at a different priority level to accommodate the original, predetermined priority level. Bertin et al (167) teaches taking bandwidth from a link with lower priority and giving it to a link of higher priority that needs it in col 3, lines 50+ to col 4, lines 1+.

It would have been obvious, to one of ordinary skill in the art at the time of the invention, to have provided bandwidth to the higher priority connections which lack it from the lower priority connections in Hsu/Bertin (372), in light of the teachings of Bertin et al (167), in order to maximize the network resources.

Cl 12: it would be obvious to take the bandwidth from the "other" data path, whether it has a higher or lower priority; Cl 18: see the rejection of claim 11; Cl 19: see

rejection of claim 12; Cl 30: see rejection of claim 18; Cl 31: see rejection of claim 12; Cl

37: see rejection of claim 18; Cl 38: see rejection of claim 12; Cl 49: see rejection of

claim 18; Cl 50: see rejection of claim 12; Cl 51: see figure 10 of Hsu; Cl 52: the circuit

in figure 1D is programmable; Cl 58: see rejection of claim 18; Cl 59: see rejection of

claim 12.

Response to Arguments

7.   Applicants remarks are moot in view of the new grounds of rejection.

8.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Steven Blount whose telephone number is 703-305-

0319. The examiner can normally be reached on M-F 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Mr. Chau Nguyen, can be reached on 571 – 272 - 3071. The fax phone

number for the organization where this application or proceeding is assigned is 703-

872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

SB   2/16/05

Ajit Patel
Primary Examiner